

April 21, 1891.

Prof. Flower, C.B., LL.D., F.R.S., President, in the Chair.

The following note on a Mongoose (*Herpestes mungo*) breeding during domestication, by Lieut.-Col. Sir O. B. St. John, K.C.S.I., R.E., F.Z.S., was read:—

“Early in November 1889 my daughter bought a young female Mongoose in Madras. It was apparently about six weeks old. It soon became extremely tame, ran about the house as it liked, but always slept at the foot of its mistress’s bed. It accompanied us on a two months’ tour in Coorg, during which, though it travelled in a box, it was at liberty at other times; it went with us to Ootacamund, and was in short thoroughly domesticated. It was never remarked in company with wild brethren, but about the middle of September showed signs of approaching maternity, and on the 20th gave birth to two kittens in some hole which we could not find. The mother reappeared the next day for food, but the young ones were not seen for a month or more, when they were as big as she had been when purchased. One has since disappeared, and the other, now almost as big as its parent, accompanies her to the house for food, but will not allow itself to be touched. The mother is as tame as ever, but spends less time in the house and more in the grounds than she used to. It may be gathered that the Mongoose, in Southern India at least, begins to breed at a year old, drops its kittens about September, and has two or perhaps more at a birth. Early in September 1883 I saw a family of a mother and three young ones of *Herpestes auro-punctatus* in Kashmir, and the next day caught one of the kittens, which I judged to be about two months old. It proved untamable and I liberated it, and never saw it again. In the first or second week in December 1882 I bought a young female *H. mungo* in Bombay, which was, I should say by the light of my later experiences, two to three months old. This little beast became extremely tame and affectionate, and accompanied us in many wanderings from Kashmir to Bangalore, and from Quetta to England. As she grew old she became gradually averse to strangers, and took to avoiding the house when any were staying with us. At last, after seven years’ domesticity, she came to the house during our temporary absence, found no one she knew, disappeared and was never seen again. Though this Mongoose was always at liberty and was often in the company of wild Mongooses she never showed any signs of breeding.”

“Bangalore, March 8th, 1891.”

Mr. R. E. Holding exhibited and made remarks on some specimens of the horns of Rams of various breeds of the domestic Sheep (*Ovis aries*).

Messrs. Beddard and Murie exhibited some drawings and specimens illustrative of the cause of death of an African Rhinoceros (*R. bicornis*), and made the following remarks:—

“The Society purchased from Mr. Carl Hagenbeck, of Hamburg, in September 1868, a young male African Rhinoceros (*R. bicornis*), which had been captured in the neighbourhood of Cassala, Upper Nubia. The animal in question has been figured in the ‘Proceedings,’ 1868, pl. 41, and again in Dr. Sclater’s memoir ‘On the Rhinoceroses now or lately living in the Society’s Menagerie’ (‘Transactions,’ vol. ix. pl. 99). The relative differences in the size of the anterior and posterior horns according to age are therein shown, and may be instructively compared with their different proportions in the more aged animal, as illustrated in the outline diagram taken after its death, and where the posterior horn is the largest. Whether, therefore, the so-called *R. keitloa* may eventually turn out to be only a variety due to age and other circumstances remains a doubtful and open question.

“Our young *R. bicornis* when received was supposed to be about 2 years old. As it lived in the Gardens close upon 22 years, its age may be roughly reckoned at 24 or 25 years. When a denizen of the Menagerie it fed well and thrived amazingly, latterly reaching a gigantic size.

“For a long time this African Rhinoceros exhibited every appearance of perfect health and activity. But a few years back there annually appeared what may be regarded as an eruption of the skin, in the form of slight roughened elevations, which became abraded with an ulcerous aspect. These, however, passed away without leaving any bad effects. The sores on the legs were regularly washed with a syringe of tepid water containing a little carbolic acid. The most noticeable sores appeared on those parts of the animal which rested on the ground, and might be compared to the bed-sores of bed-ridden human beings.

“About a twelvemonth ago its Keeper began to observe that it declined in flesh, though its appetite still continued fairly good. Within a couple of months ago more prominent symptoms of wasting appeared. But even quite towards the last, it still took its food, though seemingly a trifle more dainty in its appetite. Without any other striking feature of illness, it died on Sunday, the 12th April.

“On a *post-mortem* examination of the body the next day, the flesh generally was seen to be soft, flabby, and anæmic. For such a huge body it was decidedly lean and impoverished, and the fatty tissue not only meagre in quantity, but everywhere reduced to a watery condition. In other words, the carcass bore evidence of a gradual wasting or debility having occurred.

“In the stomach there was a considerable amount of food—viz., chopped hay, straw, carrots, and other vegetable substances; and along the intestinal tract, especially the colon and cæcum, much pulsatious material in various stages of digestion. Altogether most of the visceral organs and the brain were sound in general aspect,

though lax in consistence—the liver, for example, which was very friable.

“The anterior moiety of the palate, though, was apparently in a state of degeneration. The fore pad particularly was considerably absorbed and the surface raw and ulcerous-looking. Other parts of the mouth and fauces were healthier, but lined with a superabundance of glutinous mucous deposit and exudation. The œsophagus, however, was not affected.

“About the middle of the stomach towards the great curvature there was a triangular elevated patch, about 3 inches long by $2\frac{1}{2}$ inches wide at its broadest part. This cancerous tumour was situated on the top of the elongate mucous ridges; its more pointed part directed towards the pyloric end of the organ. Its higher wedge-shaped, flattish, abraded surface was of a brownish-yellow tint, intermingled with vascular punctations. This was surrounded by paler-coloured, roughened, nodular excrescences, radiating therefrom and filling the depressions alongside the mucous ridges.

“The tumour was firm and solid in consistence and the subjacent submucous and muscular tissues thickened, condensed, and of a glistening texture when cut into. Excepting pallor of the surrounding mucous membrane, and the tumour in question, the stomach otherwise was not diseased.

“The said tumour bore a strong resemblance to, and doubtless, as microscopic examination showed, was the same as, a cancer of the human stomach.

“The more immediate cause of death however, may be attributed to endocarditis, the right ventricular cavity being affected. Both on its septal and opposite peripheral wall were layers of soft lymphic exudation. These even extended as rough, flocculent masses upon the fleshy columns and tendinous cords. There was no deposit in the other cavities of the heart or large arteries. Under the microscope the cardiac exudation proved not to be cancerous in nature.

“Judging from the pathological conditions met with, the course of the animal's illness is pretty evident. Whatsoever may have originated the cancer is obscure; but, once set up, the only positive symptom of serious ailment was the gradual emaciation of the body, in spite of a goodly consumption of food. With defective nutrition and the wasting of tissues arose the tendency to blood impoverishment, resulting in the diseased condition of the heart, which was quickly fatal.

“Cancer of the stomach in Solipeds and Ruminants is rare, though occasional instances are recorded in veterinary publications. Its occurrence in the Rhinoceros, therefore, is a noteworthy fact, as taken in connection with its belonging to the Perissodactyla—a limited living group, whereof the Horse tribe represent the domesticated and the Tapir and Rhinoceros the wild examples.”

cuvieri from the Forest-bed of East Runton, near Cromer, of which the following is an abstract:—

In the year 1846 Sir Richard Owen referred certain Beaver-like jaws and teeth from the Cromer Forest-bed to the *Trogontherium cuvieri* of Fischer, and although some doubt was thrown upon this reference he maintained the correctness of his determination in 1869, when describing some further remains of this rodent. The type of Fischer's *Trogontherium* being a skull, it was very desirable that a similar specimen should be found in the Forest-bed, which could be compared with it; but hitherto the only parts of skulls which have come to hand have been mere fragments. Recently, however, Mr. A. Savin, of Cromer, has obtained a nearly perfect skull from East Runton, and it is this which is fully described in the present communication. A comparison with the skull of a Beaver (*Castor*) shows that although in a general way resembling it, yet the differences are certainly of generic importance. One of the chief points of difference is found in the structure of the cheek-teeth; for while in the Beaver the enamel-folds are open to the exterior of the teeth down to their bases, in the *Trogontherium* they are open for only a short distance from the summit, and consequently with wear they are soon separated from the exterior and form islands of enamel, some of which may become obliterated at a comparatively early stage. It follows from this that well-worn teeth may have fewer enamel-folds than others in an earlier stage of wearing, a fact which has led to errors in the determination of the affinities of this fossil rodent.

When compared with the type skull of *Trogontherium*, this Forest-bed specimen is found to agree so closely with it in form and structure, as well as in the arrangement of the enamel-folds of the teeth, as to leave little doubt as to their specific identity. And a further comparison with the *Conodontes boisvillettii* of Laugel, from the Pliocene of Saint Prest, reveals no difference of specific value. The study of this new specimen from the Cromer Forest-bed thus confirms Sir Richard Owen's reference of these English and French rodents to the *Trogontherium cuvieri* of Fischer.

This memoir will be published entire in the Society's 'Transactions.'

The following papers were read:—